

WHAT IS CLAIMED IS:

1. A chip carrier including a metal-coated portion formed on a front surface of a substrate and to be mounted a device, and a rear surface of the substrate being coated with a metal, wherein

a metal-coated portion is formed on a side surface of the substrate, and wherein

the metal-coated portion on the front surface of substrate is connected with the metal-coated portion on the rear surface by the metal-coated portion formed on the side surface of the substrate.

2. The chip carrier according to claim 1, wherein the metal-coated portion on the front surface of the substrate is connected with the metal-coated portion on the rear surface by a metallic via-hole formed on passing through the substrate.

3. A chip carrier including a metal-coated portion formed on a front surface of a substrate and mounted an optical semiconductor device, and a rear surface of the substrate being coated with a metal, wherein

a metal-coated portion is formed on a side surface of the substrate, and wherein

the metal-coated portion on the front surface of substrate is connected with the metal-coated portion on the rear surface by the metal-coated portion formed on the side surface of the substrate.

4. The chip carrier according to claim 3,

wherein the metal-coated portion on the front surface of the substrate is connected with the metal-coated portion on the rear surface by a metallic via-hole formed on passing through the substrate.

5. The chip carrier according to claim 3, wherein the metal-coated portion formed on the side surface of the substrate is formed on the side surface closest to a position at which the optical semiconductor device is mounted.

6. The chip carrier according to claim 5, wherein an area of the metal-coated portion formed on the side surface of the substrate is equal to or greater than 1/3 of the side surface.

7. An optical module incorporating a chip carrier with an optical semiconductor device mounted, wherein

the chip carrier including a substrate, a rear, a front and a side surfaces of the substrate being coated with a metal, and the optical semiconductor device being mounted on the metal-coated portion of the front surface, and wherein

the metal-coated portion on the front surface of the substrate is connected with the metal-coated portion on the rear surface by the metal-coated portion formed on the side surface of the substrate.

8. The optical module according to claim 7, wherein the metal-coated portion on the front surface of the substrate of the chip carrier is further

connected with the metal-coated portion on the rear surface by a metallic via-hole formed on passing through the substrate.

9.           The optical module according to claim 7, wherein the metal-coated portion formed on the side surface of the substrate of the chip carrier is formed on the side surface closest to a position at which the optical semiconductor device is mounted.

10.           The optical module according to claim 9, wherein an area of the metal-coated portion formed on the side surface of the substrate of the chip carrier is equal to or greater than 1/3 of the side surface.

11.           A chip carrier including a metal-coated portion formed on a front surface of a substrate and mounted an optical semiconductor device, and a rear surface of the substrate being coated with a metal, wherein

the metal-coated portion on the front surface of the substrate is connected with the metal-coated portion on the rear surface by a metallic via-hole formed on passing through the substrate, and wherein

the via hole is formed below the optical semiconductor device.

12.           The chip carrier according to claim 11, wherein

a metal-coated portion is formed on a side of the substrate, and wherein

the metal-coated portion on the front surface

of the substrate is further connected with the metal-coated portion on the rear surface by the metal-coated portion formed on the side surface of the substrate.

13. An optical module incorporating a chip carrier with an optical semiconductor device mounted, wherein

the chip carrier includes a substrate, a rear and a front surfaces of which are coated with a metal, and the optical semiconductor device being mounted on the metal-coated portion on the front surface, wherein

the metal-coated portion on the front surface of the substrate is connected with the metal-coated portion on the rear surface by a metallic via-hole formed on passing through the substrate, and wherein

the via-hole is formed below the optical semiconductor device.

14. The optical module according to claim 13, wherein

a metal-coated portion is formed on a side of the substrate, and wherein

the metal-coated portion on the front surface of the substrate of the chip carrier is further connected with the metal-coated portion on the rear surface by the metal-coated portion formed on the side surface of the substrate.

15. An optical transceiver incorporating an optical module constituted of chip carriers on which optical semiconductor devices are mounted, respectively

wherein

each of the chip carriers for transmission and reception includes the optical semiconductor device mounted on a metal-coated portion formed on a front surface of a substrate, a rear and a side surfaces of which are coated with a metal, and wherein

the metal-coated portion on the front surface of the substrate is connected with a metal-coated portion on the rear surface by the metal-coated portion formed on the side surface of the substrate.

16. An optical transceiver incorporating an optical module constituted of chip carriers on which optical semiconductor devices, respectively are mounted, wherein

each of the chip carriers for transmission and reception includes the optical semiconductor device mounted on a metal-coated portion formed on a front surface of a substrate, a rear side surface of which is coated with a metal, wherein

the metal-coated portion on the front surface of the substrate is connected with the metal-coated portion on the rear surface by a metallic via-hole formed on passing through the substrate, and wherein

the via-hole is formed below the optical semiconductor device.